DOCUMENT RESUME

ED 094 095 UD 014 475

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TITLE Talking Typewriter. Title I Evaluation, 1972-1973.
INSTITUTION Cleveland Public Schools, Ohio. Div. of Research and Development.
PUB DATE Jan 74
NOTE 62p.; Fund 58 - Component 4

EDRS PRICE MF-$0.75 HC-$3.15 PLUS POSTAGE
DESCRIPTORS Consultants; Disadvantaged Youth; Educational Environment; Elementary School Students; Instructional Technology; Paraprofessional School Personnel; *Program Evaluation; Reading Diagnosis; *Reading Programs; Remedial Reading; *Teaching Methods; Teaching Techniques
IDENTIFIERS Elementary Secondary Education Act Title I; ESEA Title I Programs; *Ohio; Talking Typewriter

ABSTRACT

The Talking Typewriter Program has been operative in the Cleveland Public Schools as a strategy to improve the reading skills of identified fourth grade pupils in 12 Title I schools. A responsive and autotelic environment augmented by selected materials, special teaching techniques, the expertise of trained staff, and individualized tutoring formed the core of a design geared toward the removal of reading frustrations which many children have faced throughout the primary grades. The project operated under the supervision of the Educational Program Manager of the Reading Instruction Program assisted in part by one consultant. Delivery of instruction was the responsibility of three reading consultants. Their duties included testing and diagnosis, instructional planning, concept presentation, prescriptive teaching, individualization, consultation, and remediation. Additional support in remediation efforts was given by tutors assigned to the project from the Resident Tutor Project under the supervision of the talking typewriter professional staff. The five Talking Typewriters were monitored and operated by three educational assistants. (Author/JM)

ED 094095

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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TALKING TYPEWRITER
TITLE I EVALUATION
1972-1973

FUND - 58 Component 4

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January, 1974

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I. INTRODUCTION

The Talking Typewriter Program has been operative in the Cleveland Public Schools as a strategy to improve the reading skills of identified fourth grade pupils in 12 Title I schools. A responsive and autotelic[1] environment augmented by selected materials, special teaching techniques, the expertise of trained staff and individualized tutoring form the core of a design geared toward the removal of reading frustrations which many children have faced throughout the primary grades.

A. Needs and Rationale

Authorities in the field of learning behaviors emphasize the recognition of individual learning modalities. Many pupils adjust to the core reading process and make satisfactory progress. There remain pupils whose learning modalities require a different approach which may not have been met as they moved through the grades. For the child who has not met success in the regular classroom with additional remediatory assistance, a change in the direction of the approach to reading deficiencies is indicated.

The Talking Typewriter offers an efficient educational strategy with a different learning environment. It

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[1]Moore, O. K., "Autotelic, Responsive Environments for Exceptional Children", in O. J. Harvey (Ed.) Experience, Structure, and Adaptability. New York. Springer Publishing Co., 1966. Pp. 169-216.

combines structured materials geared toward mastery of benavioral objectives to promote changes in attitudes as well as positive changes in reading directions. It utilizes a response to visual and kinesthetic signals as one positive facet.

Critical numbers of individuals are unable to move into the mainstream of life with skills deemed necessary for employment. Poor reading skills have been identified as the crucial lack for those who remain unemployable. The child, identified as having a reading handicap at the end of the third grade, becomes a focal point of concern as a potential future dropout.

Metfessel and Seng project one useful grouping of the characteristics of a low achiever as "learning style"[2]. They state:

> "Low achievers characteristically demonstrate a cognitive learning style that responds more to visual and kinesthetic signals than to oral or written stimuli".

Rationale for this program rests upon certain key factors demonstrated to be critical to optimal learning:

- establishment of a responsive environment
- utilization of multi-sensory techniques
- positive learning reinforcement through successful learning experiences
- self-pacing of instruction

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[2]Metfessel, Newton S. and Seng, Mark W. "Correlates With the School Success and Failure of Economically Disadvantaged Children". Reading for the Disadvantaged. International Reading Association. Harcourt Brace and World, Inc. New York, 1970. P. 76.

- prescriptive teaching based on diagnostic data
- flexibility and versatility of teaching resources

The Talking Typewriter's Responsive Environment rationale also seeks to reverse the "failure expectation" strand which may permeate many students' perception of their reading performance. Kagan and Moss[3] reported a high correlation between children's expectations for failure in problem situations and withdrawal from the situation.

Reading frustration, accompanied by a pattern of consistent failure, suggest the presence of a built-in failure response. The child's reaction may reflect the direct or indirect result of self-expectation. Jeremy D. Finn explored the concept of "expectancy effect" and some studies related thereto. He stated:

> "The effects of educational expectations accrue both in and out of school. Just as the child may carry to school the concept of himself as a 'failure', he may carry home the objective evidence that he has failed".[4]

The Talking Typewriter program attempts to provide daily reading success experiences through which every child

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[3]Kagan, J. and Moss, H. A.: Birth to Maturity: New York, New York: Wiley and Sons, 1962. P. 130.

[4]Finn, Jeremy D. "Expectations and Educational Environment". Review of Educational Research. Vol. 42, No. 3: Summer, 1972. Pp. 387-410.

may experience success in reading as he seeks to progress through the program on his level and at his rate.

Generally, this program seeks to improve reading competencies of disadvantaged children in grade 4 in Cleveland Public Schools whose needs indicate a different approach.

Specifically, goals for the program include:

1. To improve the reading skill of pupils with serious reading disabilities in an effort to bring them up to an appropriate level for their reading expectancy which shall be determined by the Bond-Tinker formula.

   Two criteria will be considered indicative of appropriate functioning:

   a. Independent performance by the pupil in terms of using the materials in his regular classroom

   b. Achievement on standardized tests and inventories within appropriate level for reading expectancy as described in Chart I in the plan for evaluation

2. Improvement of parental involvement and supportive efforts with reinforcement of the remediation process

3. Upgrading of teacher competency in the teaching of reading to the child with a reading handicap

4. Establishment of more positive rapport with the school community.

B. Historical Background

Current reading programs in Cleveland Schools have resulted in noteworthy gains for substantial numbers of children. It became apparent, however, that new instructional

arrangements must be made for other children whose learning styles were not utilized to greatest advantage by present instructional procedures in language arts. New responsive learning environments were needed to facilitate mastery of the language arts--notably reading.

The Talking Typewriter appeared to provide a new and intensive learning experience for groups of children in the fourth grade found deficient in reading skills. The multimedia, electronic device was a motivational factor. Its operation offered strengthening of the auditory, visual and tactile senses. Programmed reading materials reinforced by skilled reading teachers, were an integral part of the total teaching plan. The design of the Talking Typewriter program of the Cleveland Public Schools was reflective of accepted learning theories of recognized behavioral psychologists and psycholinguists.

In May, 1969, the Talking Typewriter Program began. This Responsive Environmental Learning Center, located in the Supplementary Education Center, near downtown Cleveland, was within convenient distance for numbers of inner-city schools. In its initial year, the program rendered service to 12 schools. Full implementation of the follow-up phase of the design has increased the number of classes served. The 1972-73 school year saw 12 schools serviced at the installation site and 12 schools having completed follow-up program.

C. Summary of Operations

The project operated under the supervision of the Educational Program Manager of the Reading Instruction Program assisted in part by one consultant. Delivery of instruction was the responsibility of three reading consultants. Their duties included testing and diagnosis, instructional planning, concept presentation, prescriptive teaching, individualization, consultation and remediation. Additional support in remediation efforts was given by tutors assigned to the project from the Resident Tutor Project under the supervision of the Talking Typewriter professional staff. The five Talking Typewriters were monitored and operated by three educational assistants. The staff and the educational assistants worked as a team to coordinate programming to meet the needs of individual children. A unique feature of the design was the inclusion of the classroom teacher who was trained by the Talking Typewriter staff and taught in the related classroom as part of the teaching team.

The evaluation focuses on operations during the 1972-73 school year. Total enrollment for the year was 692 pupils. Appendix I summarizes the enrollments for the project schools.

Project costs amounted to $177,959, which represented a per pupil expenditure of $257.16.

D. Questions To Be Answered By Evaluation

1. What improvement did participating pupils make in reading as indicated by changes from pre to post test scores?

2. Did the participating pupils improve their reading to a level appropriate to their reading expectancy?

3. What were the changes in reading behavior patterns and attitudes toward reading as observed by their teachers?

4. What improvement in reading was observed by parents of participating pupils?

5. How were prior Talking Typewriter pupils performing in reading in their current classes based upon their placements on city-wide tests?

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II. HIGHLIGHTS OF FINDINGS

A. Summary of Key Findings

It should be recognized in interpreting results of this evaluation that participating children have exhibited low levels of reading mastery and failure through the greater portion of their school experience. Establishment of "fair" criteria for progress represents an exceedingly difficult task. A reading expectancy derived through use of the Bond-Tinker formula is considered an appropriate means for comparing individual assessment of gain. It attempts to provide individual goals rather than a group standard appraisal which each child must meet.

This evaluation addresses itself to specific questions. Its findings include:

1. What improvement did participating pupils make in reading as indicated by changes from pre to posttest scores?

   - Mean gain scores from pre and posttest gave evidence that pupils, who participated in the six-week intensive instruction phase of the program, achieved an average gain of four months in vocabulary and seven months in comprehension.

   - Comparison of pre and posttest average scores in vocabulary and comprehension showed a significant increase in comprehension for all classes selected for the evaluation sample in the intensive instruction period. Each of the seven classes in the sample achieved statistically significant levels of reading performance.

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2. Did participating pupils improve their reading to a level appropriate to their reading expectancy?

   . Gains in reading performance were observed for one out of three pupils using a criteria of one and one half month of gain for six weeks of instruction. Average gain in grade equivalent units was seven months in an average service period of 27.59 days. Gains achieved by 98 per cent of pupils in the seven school sample placed them within one year of reading expectancy.

3. What changes in reading behavioral patterns and attitudes did teachers observe?

   . Teachers saw pupil development of a sense of appreciation for reading outcomes, an upswing in self-motivation, a willingness to work within the group and an increased desire to share.

4. What improvement in reading was observed by parents of participating pupils?

   . Parents reflected overall approval of the program. Parents noted pupil interest in reading, improved attitude toward school and increased understanding of reading content.

5. How did pupils who had completed the six week instruction phase perform after 150 days in their home school classrooms?

   . Findings drawn from the data of a sample of four classes which had completed the 180 day design reflected minor gains in reading performance beyond that attained at the end of the six week period. Mean reading gain for this sample population was two grade equivalent units beyond the six grade equivalent unit gain achieved in the six week period. It may be interpreted that a plateauing effect occurred for two schools during the 150 day classroom program. The remaining two schools reflected a loss of three and one half units.

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6. How were prior Talking Typewriter pupils performing in reading in their current classes based upon their standings on city wide tests?

   - The average stanine placement for a sample of 43 pupils who had completed the Talking Typewriter 180 day design in 1971-72 approached stanine four in vocabulary and stanine two in comprehension as sixth graders based upon scores drawn from city-wide testing in 1972-1973.

B. Implications and Recommendations

Findings suggest:

- expected gain yield in reading can be achieved when the reading approach and materials are geared to individual pupil reading needs
- parents will assist and support their child's reading efforts
- teacher assistance to pupils will improve through training and participation with pupils in a new reading approach

Suggested recommendations include

- continuance of the Talking Typewriter program's services to children who meet the program criteria
- further development of a plan of concentrated support for classroom teachers and pupils as they move through the transition period following the end of Phase I and the implementation of Phase II

III. PROJECT DESCRIPTION

A. Participant Characteristics

It was anticipated that approximately 420 pupils could be served for instructional periods of six weeks during the school year. Pupils in classes from 12 target Title I schools would receive 15-20 minutes of computer-based instruction based upon Sullivan materials, followed by an extensive reinforcement period in the related classroom.

Pupils eligible for service would give evidence of one or more of the following:

- severe reading disability for grade
- multiple classroom problems which parallel reading skill deficiency such as poor attention span, poor motivation, maladjustment, poor self-concept, excessive absence, etc.
- lack of confidence in ability to learn to read
- history of school failure and limited success in mastering the language based subjects

Talking Typewriter staff, and classroom teachers agreed that the participants selected:

- had a record of school failure as evidenced on cumulative records
- manifested personality problems as the result failure frustrations
- related poorly to the reading process
- ranked from one to three grades lower in comprehension and vocabulary skills based on standardized test scores

- showed records of poor attendance suspected to be related to inability to compete favorably within the classroom due to reading deficiencies

- would react favorably to a new approach in reading in which:

  - prescriptive teaching techniques based on individual and small group need would be used by trained reading staff

  - the classroom teacher would participate as part of the teaching team

  - failure frustrations were controlled

  - materials were closer to actual reading level

  - peer competition factors were removed

  - progress could be made at pupil's reading rate

  - a new stimulus was provided for motivation

  - a longer period of time was devoted to intensive remediation of reading needs

During the 1972-73 school year, a total of 692 enrolled in fourth and fifth grade regular classes of 24 schools were participants in the Talking Typewriter program. The design of the program placed two classes at the instructional site every six weeks. After completion of the six week phase of the program, these classes returned to their home schools and entered the 150 day follow-up phase of the program. Consultant services to the teacher and class were provided by one of the trained Talking Typewriter staff. Full implementation of the continuum necessitated continuous scheduling of classes into the site.

The following table reflects the number of schools involved.

TABLE I

Schools Served by Talking Typewriter
1972-1973

Year	Schools	Pupils
September 1972-June 1973.....	Public Elementary.....22	628
September 1972-June 1973.....	Parochial Elementary.....2	64
	TOTAL.....24	692

The continuum plan places two schools in a pre-test phase, two schools at the instructional installation, six schools in follow-up and two schools in a post-test phase.

B. Project Operations

At the end of third grade, some children have experienced serious reading disability yielding a history of failure. The pleasure of reading success has eluded them as they have not been able to relate to the core reading process. The major thrust of this program is directed toward children in this category at grade four level.

Each Talking Typewriter is enclosed in a private booth where the pupil, completely alone, faces no competitive pressures, hears no distracting noises, proceeds at his own pace and suffers no embarrassment if his reading level is low.

Five booths permitted a total of 20 children per hour utilization of the Talking Typewriters. Information was presented audibly and visually, with any desired sequence of letters, words and paragraphs. It responded to the student, providing a constant flow of responses, resulting in a continuous success-confidence building experience for the learner. The booths were monitored by a staff of trained aides who added a "comfort" factor.

Introduction and reinforcement of programmed concepts, with which the student would work in Talking Typewriter sessions, were taught by three reading consultants and the classroom teacher. In addition, the classroom teacher received "on-the-job" training in techniques geared to meeting individual reading needs. Small group and individual tutoring was accomplished by educational assistants and graduate student tutors from the Resident Tutor Program. The supportive services of specialized personnel at Diagnostic Reading Clinic were available upon request.

Proper placement of pupils into the Sullivan materials was based upon results from administration of the Lorge-Thorndike Intelligence tests, Level 2, Metropolitan Primary II Reading Tests (1970) Form F and Sullivan Placement Tests.

Intelligence measures are considered only in that they result in approximation of the child's potential at the time of testing and are not considered conclusive of his inate

abilities. Table 5 presents the range of P.L.R. results of pupils from a sample of six schools which received the services of the Talking Typewriter in 1972-73.

The Metropolitan Primary II Reading Tests were administered pre and post to establish the level of reading achievement. To insure that the intent and philosophy of the Behavioral Research Laboratories rationale was effected, the Bond-Tinker Reading Expectancy Formula was employed. Comparison of the child's reading scores against his reading expectancy projected the degree to which the gap had been narrowed.

Six weeks attendance was recorded as an indicator of the sustaining impact of the Talking Typewriter.

Staffing

This project operated under the guidance and supervision of the Educational Program Manager of the Reading Instruction Program assisted by one teacher-consultant. Three trained reading consultants, three educational assistants, one parent coordinator and a clerk completed the assigned staff at the installation. Children were transported to and from the Talking Typewriter site by minibus, utilizing the part-time services of two drivers. Specialized staff from the Diagnostic Clinic psychologists, nurse and social workers, provided part-time services upon request. Further efforts at individualization of remediation were given by tutors from Resident Tutor Program.

A unique feature of the instructional program was the inclusion of the classroom teacher and a classroom aide as part of the teaching team. These persons trained by the consultant-teachers received valuable experience as part of the team.

In-Service Training

In-service activities for the teachers and educational aides at the installation were conducted by the Talking Typewriter professional staff, whenever the need arose. In addition, staff was involved in all in-service activities of the Reading Instruction program presenting experts in the field of reading.

Weekly staff meetings were scheduled to discuss plans and problems. These meetings provided the staff an excellent opportunity to correlate and build techniques for working with parents and interested community adults.

Parent Involvement

In line with program design, a parent observation meeting was scheduled during the span of time the class was in attendance at the site. A total of 14 group meetings were held for parents, at the site involving 87 parents.

Advisory Committee

The Talking Typewriter Parent Advisory Committee is part of the larger Parent Advisory Committee for the Reading Instruction Project.

IV. EVALUATION

A. Basic Design

The nature of the Talking Typewriter evaluation design did not lend itself to the use of an experimental-control design for evaluation purposes. An individual-vs.-self assessment was employed. A reading expectancy was used to determine pupil progress toward a performance level relevant to the particular pupil's strengths. The design involved a 2 x 3 time spun assessment over a 180 day instructional period. It is considered that an appropriate level for upper elementary and secondary school pupils will be within acceptable limits of within one year of reading expectancy. Each child will serve as his own control. Another aspect of appropriate functioning by pupils was adequate classroom performance as observed by the classroom teacher. Parents were asked to submit their opinions of their child's improvement as judged by their observations of reading performance outside the classroom.

The evaluation centered on these key questions:

1. What improvement did participating pupils make in reading as indicated by changes from pre to posttest scores?
2. Did the participating pupils improve their reading to a level appropriate to their reading expectancy?
3. What were the changes in reading behavior patterns and attitudes toward reading as observed by their teachers?
4. What improvement in reading was observed by parents of participating pupils?

5. How were prior Talking Typewriter pupils performing in reading in their current classes based upon their placements on city-wide tests?

Results and Analysis of Findings

A random sample of seven schools was selected for evaluation purposes. These schools were representative of the six week design of the program which operated at the Talking Typewriter installation and the classroom follow-up. Data from a population sample of 154 pupils in grade four formed the basis for findings related to Phase I. Follow-up data were drawn from obtained scores of 58 pupils in grade five involved in the follow-up classroom program during the 1972-73 school year who had completed the 180 day design and will be referred to as Phase II, in this evaluation.

The Metropolitan Primary II Reading Tests, Forms F, G, and H and the Lorge-Thorndike Intelligence Test, Level 2, were administered to all participants as instruments of pre and post measurement. Classes in the 1972-73 follow-up (Phase II) post-tested on the Metropolitan Reading Test, Form H. Information gained from the results of testing in addition to teacher and parent assessment of pupil progress was used to provide answers to questions posed in this evaluation. The evaluation plan is presented in Chart I.

What improvement did participating pupils make in reading as indicated by changes from pre to post-test scores?

Observation of mean gain scores from pre and post testing with the Metropolitan Reading Tests, Forms F and G

CHART I

Plan For Evaluation
Talking Typewriter Program

Objective	Data Collection	Data Analysis	Criterion
1. To improve reading skill of pupils with serious reading disabilities in an effort to bring them up to an appropriate level for their reading expectancy which shall be determined by the Bond-Tinker formula.	Pre-post administration of Metropolitan Reading Test, Primary II or Elementary, Forms F, and G, in addition to follow-up administration of Form H upon completion of classroom service period. Pre-program administration of Lorge-Thorndike Intelligence Scale, Primary Battery, Level 2 Pupil Rating Sheet	$O^1 \times O^2$ $O^1 \times O^2$ (ex post facto control group) Analysis of co-variance	Achievement on standardized tests within at least a half-year of pupil's reading expectancy level--which is to be achieved by at least four out of ten pupils receiving full services. Independent functioning by four out of ten pupils receiving full service with regular classroom reading materials at least half of the time.
2. To improve parental involvement and support in remediation of pupils' reading disabilities.	Program records Parental Questionnaire	Descriptive report	Contact will be made with at least 90 per cent of the parents of participating pupils; at least 75 per cent will report improvement in their children's reading performance.

gave evidence that Phase I classes achieved an average gain of .7 in comprehension and .4 in vocabulary after six weeks of intensive instruction. Table 2 presents the findings.

The rationale of the Talking Typewriter programed materials proposes a two year gain for one year of instruction. This is equivalent to a proportionate gain of two months for one month of instruction. The 1972-73 sample achieved an average gain of one and one half months for one month of instruction. At the time of entry into the program, the average stanine placement for pupils in seven schools was 4 in vocabulary and 3 in comprehension. At the end of six weeks of instruction in Phase I, the standings of the sample schools were stanine 5 in vocabulary and 5 in comprehension.

Standard scores are useful in reporting a score's distance from the mean in terms of standard deviation units. The mean is generally accepted as 50 with a standard deviation of 10. Standard scores on the Metropolitan Tests express the results for a subtest area for all batteries and all forms on a single common scale. Within a single subtest area, standard scores are directly comparable from battery to battery and from form to form.[5] The Talking Typewriter program uses three forms of the Metropolitan Reading Tests, forms F, G and H. Schools

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[5]Durost, Walter N., et. al: Metropolitan Achievement Tests, Primary II, Teacher's Handbook: Harcourt Brace Janovich, 1971: P. 4.

enter and leave the program on a six week schedule. Other schools which have completed the 180 day design are tested at varying points in time throughout the year. Use of the standard scores permits comparison of scores across the three forms of the test. Raw scores on these tests are converted to standard scores. Standard scores being equal units of measurement with nonvarying size from distribution are useful for the type of reporting necessary for this evaluation. Stanines were selected over percentile ranks as it is recognized that stanines are equally spaced steps along a scale. Stanines have a mean of 5 and standard deviation of approximately 2.

T statistics between observed means of standard scores in vocabulary and comprehension, pre and post, were computed as one means of determining the extent to which gains made may be considered significant.

TABLE 2

Metropolitan Reading Tests Forms F and G
1972-1973

School	Vocabulary Pre	Vocabulary Stanine	Vocabulary Post	Vocabulary Stanine	Comprehension Pre	Comprehension Stanine	Comprehension Post	Comprehension Stanine
1	2.6	3	3.1	4	2.1	2	2.8	4
2	3.0	4	3.5	5	2.4	3	3.2	5
3	3.1	4	3.5	5	2.6	3	3.5	5
4	2.9	4	3.3	5	2.4	3	3.2	5
5	3.0	4	3.3	5	3.0	4	3.6	5
6	2.4	3	2.7	3	2.1	2	2.6	4
7	3.1	4	3.5	5	2.7	4	3.2	5
Average	2.9	4	3.3	5	2.5	3	3.2	5
Average Gain		.4				.7		

Significant t's were evident for 100 per cent of the sample classes in vocabulary and 100 per cent in comprehension. Table 3 presents the t distribution.

The average child enters fourth grade at age nine. Children selected for instruction at the Talking Typewriter were determined to be those who have experienced repeated failures through school due to severe reading deficiencies. It is recognized that these pupils are generally over-age by the time that they reach the fourth grade. In the evaluation sample it was found that ages of pupils ranged from 8-11 to 11-8 years. Appendix II lists the range of ages with their comparative medians. Median age for the sample of 154 pupils in the Phase I program was 10-2 years.

TABLE 3

Levels of Significance* For Observed Means of Scores - Metropolitan Reading Tests
Talking Typewriter - Grade 4 Pre Form F, Post Form G

School	N	Vocabulary Pre Form F	Vocabulary Post Form G	Vocabulary t ($p \leq .05$)*	Comprehension Pre Form F	Comprehension Post Form G	Comprehension t ($p \leq .05$)*
1	19	53.37	57.79	3.03 s.	45.74	55.26	6.07 s.
2	21	57.38	61.81	5.03 s.	49.76	58.52	5.12 s.
3	21	57.71	61.76	4.11 s.	52.19	61.52	4.35 s.
4	22	55.82	60.59	4.69 s.	50.27	58.68	4.57 s.
5	26	56.96	59.85	1.89 s.	57.35	62.62	6.16 s.
6	21	51.10	54.29	2.92 s.	45.76	52.48	4.29 s.
7	24	57.63	61.45	3.50 s.	53.71	58.79	5.35 s.

*Levels of significance for one-tailed test
s. - significant
n.s. - not significant
Means of standard scores

Excessive age for grade suggests that such pupils will evidence large differences between their reading scores and reading expectancies. This becomes a critical handicap which must be overcome in the process of remediation before real gain can be observed.

Intelligence measures form only one basis of consideration when assessing the progress of the individual pupil. These measures are interpreted as the approximate level of functioning of the pupil at the point in time of testing. It is recognized that many extraneous variables are operative which may have an indirect bearing on pupil performance. Proper assessment of growth in reading requires inclusion of some measure of intelligence. The Lorge-Thorndike, Level 2 was chosen as appropriate. Results demonstrate that the range of intelligence for the evaluation sample was 64-114. The median intelligence score was 90.49. IQ results are presented in Table 4.

TABLE 4

Results Based Upon Administration Of The Lorge-Thorndike Intelligence Test

School	Enrollment	Range	Median
1	19	71-108	88.05
2	21	73-109	91.59
3	21	78-112	92.71
4	22	76-115	93.00
5	26	76-126	94.54
6	21	66-102	82.33
7	24	67-111	91.17
TOTAL	154	66-126	90.48

The above information illustrates the wide range of ability of the classes being served by the Talking Typewriter program. Pupils were selected for participation because they reflected critically deficient reading skills. It was the intent of the program to serve children in the below average range of ability. The needs of this type of population require constant re-examination of progress and developmental processes. Their learning problems necessitate stringent individualization.

Attendance data was assessed to observe the impact of motivation as a factor in achieved reading gain. It was determined that during an average service period of 27.59 days,

the sample of the 7 schools showed an average grade equivalent gain of four months in vocabulary and seven months in comprehension. Table 5 illustrates the grade equivalent gain units by schools.

TABLE 5

Average Service Period By Schools

School	N	Average Grade Equivalent Gain in Months		Phase I Average Service Period
		Vocabulary	Comprehension	
1	19	5	7	28.00
2	21	5	8	25.18
3	21	4	9	27.76
4	22	4	8	28.00
5	26	3	6	28.65
6	21	3	6	28.38
7	24	4	5	27.14
TOTAL	154	4	7	27.59

*Converted to grade equivalent units, the average gains are 4.1 and 7.0

The second matter of concern was:

- Did the participating pupils improve their reading to a level appropriate to their reading expectancy?

This evaluation was concerned with the change between the pupil's reading expectancy and functioning level in reading. The Bond-Tinker formula for reading expectancy was used to establish an optimum level for each pupil through

individualization of a standard for assessing the pupil's progress. The formula is the product of the pupil's years in school, his scholastic performance as indicated by a deviation IQ score obtained from the Lorge-Thorndike Intelligence Test plus one, e.g. - years in school x $\frac{\text{IQ score}}{100}$ + 1.0. This procedure of comparison of pre and post-program standings for each pupil in relation to their expectancy was considered more appropriate as a guide to assess the extent to which the rationale of self-competition was achieved.

The "appropriate level of functioning" was set according to the classification system delineated by Wilson which prescribes tolerable discrepancy scores in relation to grade levels[6]. An average of these (.8 for the fourth grade, 1.0 for the fifth and 1.2 for the sixth grade levels) produces an average discrepancy score of 1.0 which was applied in this evaluation. It was considered that pupils performing within a year of their expectancies would be at an appropriate level and would not be considered disabled.

Results indicated that on the basis of post-program reading vocabulary and reading comprehension reading scores better than one out of three pupils in the sample population narrowed the discrepancy between their performance levels and reading expectancies to 1.0 or less grade equiva-

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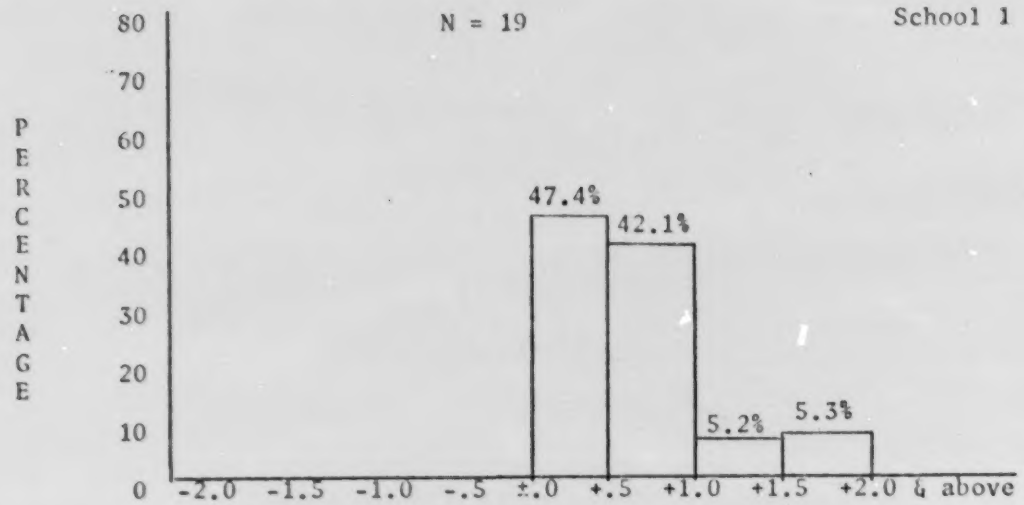
[6] Wilson, Donald B., Diagnostic and Remedial Reading, Columbus, Ohio. Charles E. Merril Books, Inc. 1967.

CHART II (Cont'd)

Talking Typewriter
Gains in Reading Performance Based on Change Scores

Phase 1



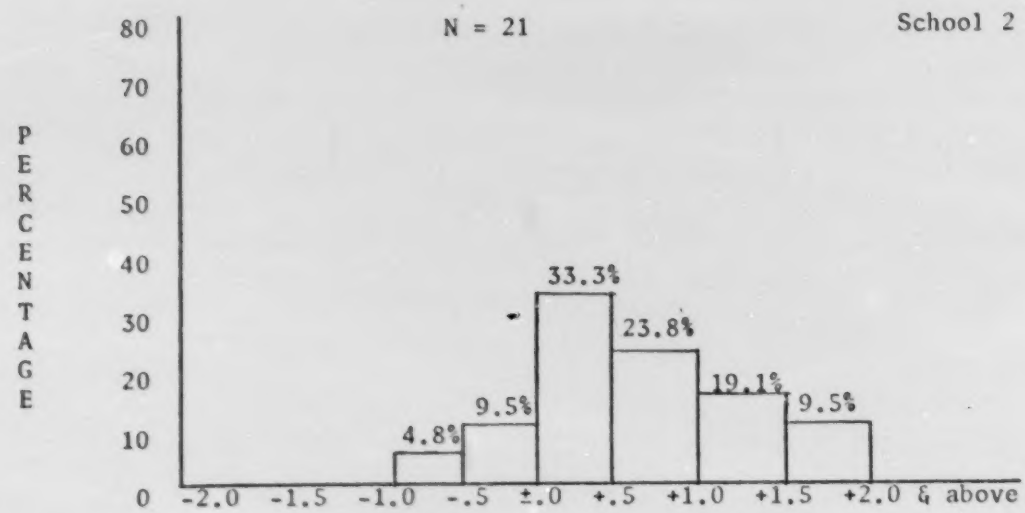
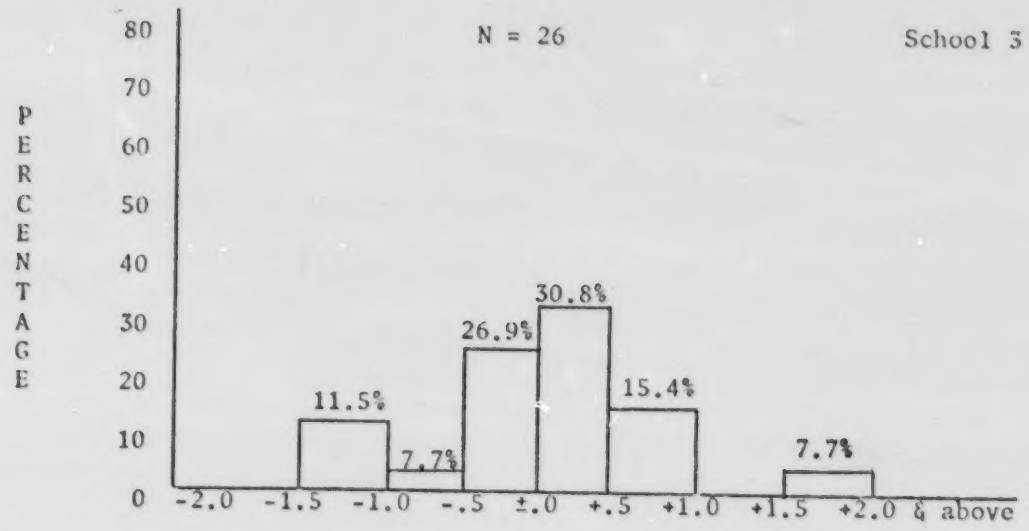


CHART II (Cont'd)

Talking Typewriter
Gains in Reading Performance Based on Change Scores

Phase 1



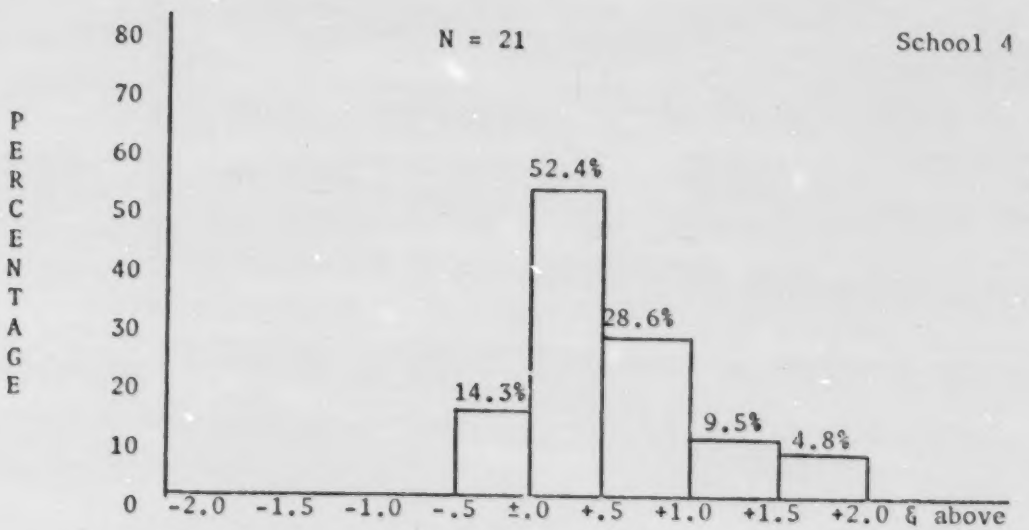
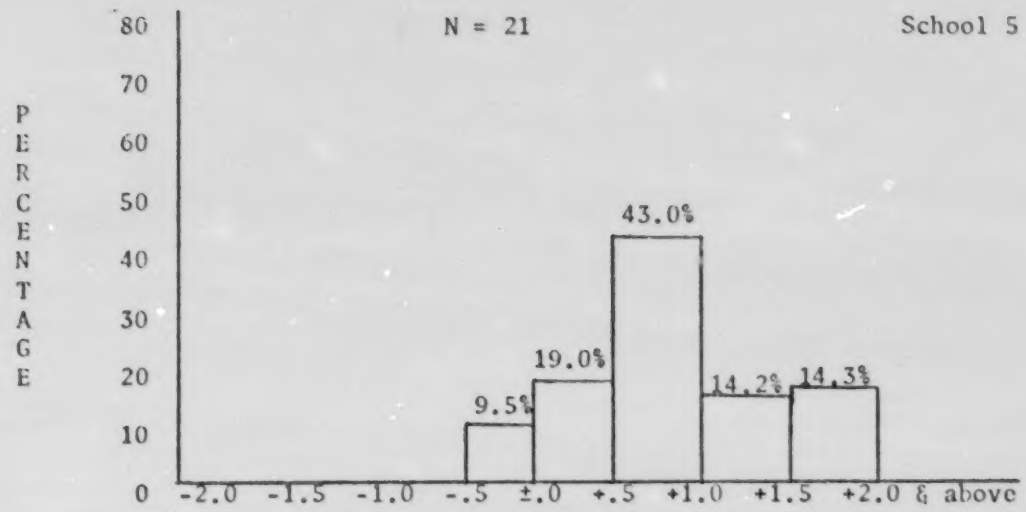


CHART II (Cont'd)

Talking Typewriter
Gains in Reading Performance Based on Change Scores

Phase 1



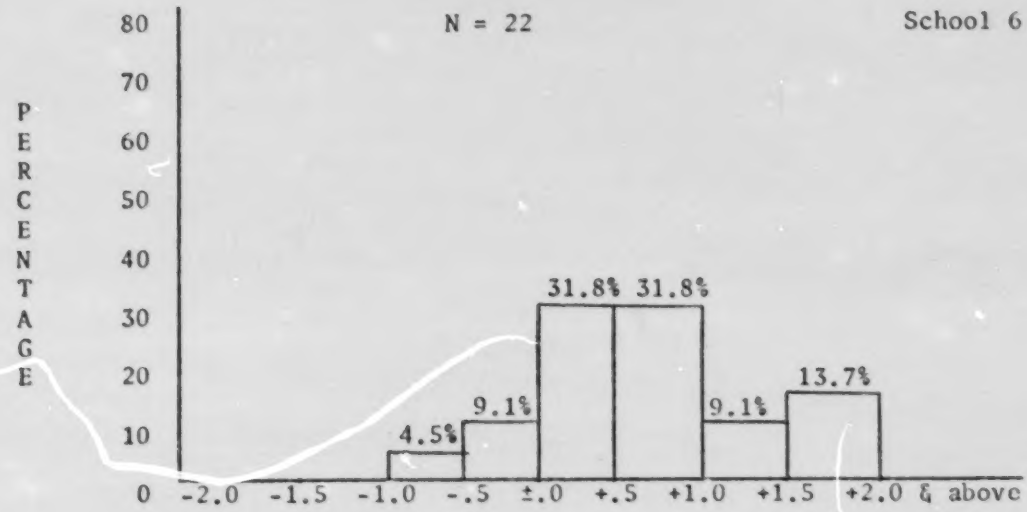
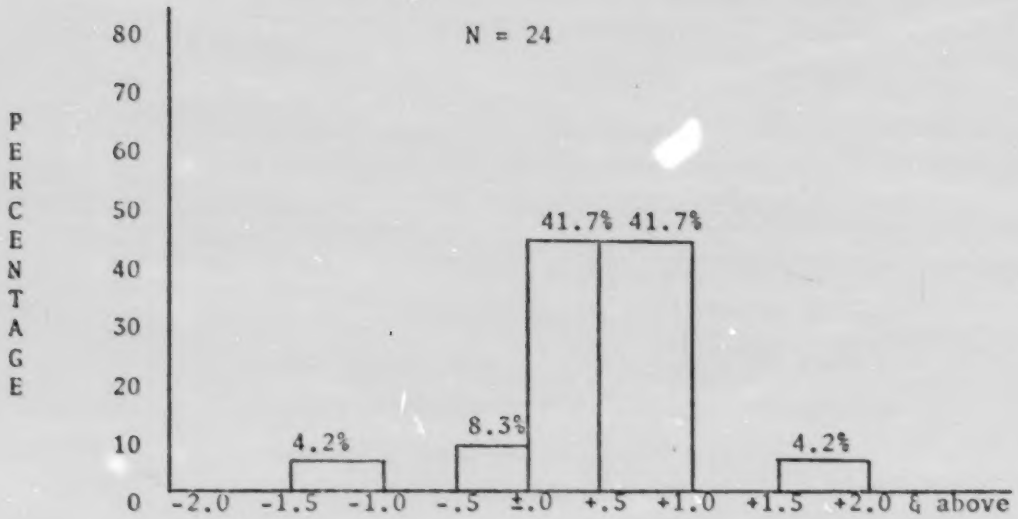


CHART II (Cont'd)

Talking Typewriter
Gains in Reading Performance Based on Change Scores

Phase 1 School 7



Inspection of Appendix V reveals that 86 per cent of the participants in Phase I began their program at the Talking Typewriter with a level of -1.1 years and more below their reading expectancies. It should be considered that the formula is a gross screening tool which does not pinpoint "specific" skill deficiencies. These must be determined through diagnostic procedures and the resultant instructional design individualized to permit each child to work toward his individual goal of improvement. The variables of excessive age and wide-ranged intelligence, as presented, should be considered. Approximately 33 per cent of the pupils improved their reading performance levels to within one year and beyond their reading expectancies within a six week period. Approximately 76 per cent of pupils achieved reading gains of from two months to 3 years in relation to gains in reading performance based upon change scores. Chart II presents the findings.

Phase II

Upon completion of Phase I (six weeks intensive instruction at the Talking Typewriter installation), classes continued the program in their home schools for a period of 150 days. Assistance to these classes and their teachers was given from the Talking Typewriter professional staff. During the 1972-73 school year, 12 schools completed the 180 day design and were phased out of the program. Data presented in this section of the evaluation were pertinent to a sample of four schools randomly selected from this group of schools.

The roster of Phase II schools may be found in Appendix I.

A sample population of 58 pupils was involved in the Phase II study. For purposes of validity, only those pupils who attended the six week phase and the classroom follow-up program were considered as having completed the 180 day design. Pupils in this sample were tested with the Metropolitan Reading Tests, Form H.

The sample population was typical of that discussed in the preceding study of Phase I. The median age of the group upon entry was 11-3 and median IQ, 90. This supports the premise that participants exemplified the characteristics of excessive age and wide range of intelligence typical of other pupils with reading deficiencies. Table 6 illustrates the findings.

TABLE 6

Median Age And Intelligence Results
of Pupils in Follow-Up Classes
At End of Phase II

School	Enrollment*	Age		Intelligence	
		Range	Median	Range	Median
1	17	10-3 to 13-0	11-5	62-112	87.24
2	12	9-4 to 10-10	10-3	61-105	82.75
3	13	10-7 to 12-3	11-5	71-118	93.77
4	16	10-6 to 13-3	11-10	80-110	95.44
TOTAL	58	9-4 to 13-3	11-3	61-118	89.80

It was evident that both Phase I and Phase II pupils were typical of the heterogeneity of pupils within classroom by age and intelligence.

Average gains from reading scores were based upon results obtained from the administration of Metropolitan Achievement Tests, Form H. Observed means of standard scores are presented in Appendix III. Average grade equivalent scores and stanine standingss which were within the average band (stanine five) achieved in the six week Phase I program remained stable across the 150 day classroom follow-up period. However, it was evident that the pace of reading growth visible at the end of the six week period had declined resulting in a greater discrepancy between post-post reading status and grade-level test norms.

Reading expectancies, adjusted for span of time, were utilized to reflect the degree to which the rationale of self-competition was observable at the end of the 180 day design. Comparisons of each pupil's attained score in comprehension and his reading expectancy demonstrated progress toward an individual goal of achievement. It was determined that 59 per cent of the participants came within one year of their reading expectancies which was considered an appropriate level of functioning without being considered disabled. Approximately five per cent of the sample population were beyond the criterion level of within one year at the end of the 180 day period. It may be interpreted that a plateauing effect had occurred during the classroom follow-up period. This pattern of regression had been observed in the 1969 through 1972 evaluations. In an attempt to offset the observed regression effect

the project implemented the training of a classroom aide along with the teacher to provide additional support for pupils. Principals were requested to lend support through careful selection of the teacher. The project continued emphasis on teacher selection as strength, creativity and flexibility were deemed necessary teacher ingredients for pupil success. Evaluation findings suggest the need to continue strengthening the classroom follow-up program. Pupils in two schools of the four Phase II classrooms in the sample revealed losses in reading during the follow-up period. The classroom program minus the Talking Typewriters to which the pupils had become conditioned may have contributed greatly to a high regression effect immediately following completion of the Phase I program at the installation site. Future planning must take into account the loss of the "conditioned reinforcer"[7]. The transition period is critical in maintaining reading performance levels which pupils have achieved during the six week period.

Thirdly:

What improvements did pupils reflect in functioning with materials in the classroom?

It was deemed pertinent to survey teachers who were participating in the Talking Typewriter Program for the first time. It was observed that 10 out of 12 teachers in the total group were new to this reading approach.

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[7]Skinner, B. F., "Why We Need Reading Machines", Harvard Educational Review, Vol. XXXI, Fall, 1961, Pp. 377-398.

Teachers were asked to react to the question:

What improvement did pupils reflect in functioning with materials in the classroom?

Teachers felt that their pupils had acquired:

- better word attack
- feelings of success and pleasure in reading
- greater understanding of how to use the dictionary
- a sense of responsibility in own accomplishment
- improved spelling
- a better opinion of own ability to read
- expanded vocabulary

Outgrowths of these improvements provided visible answers to the fourth question:

What were the changes in reading behaviors and attitudes toward school as observed by teachers?

Teachers saw pupils as having developed:

- a sense of appreciation for reading outcomes through listening
- an upswing in self-motivation
- a willingness to work with the group
- increased desire to share

Additional dimensions were viewed as:

- heightened phonetic power
- expanded comprehension skills
- increased pronunciation precision
- extended appreciation for the value and enjoyment of reading in general

The opinions of principals were sampled to determine their reactions to program impact for selected pupils in their buildings. The sample of 11 schools included schools in which classes had recently completed the six week phase and the follow-up phase. Seven of the schools had classes which had completed the six week component, and four classes had recently completed the 180 day design. It was of interest to note the number of times the school had participated in the program since its inception in 1969.

Number of Schools	Times Participated
4	1
3	2
3	3
1	1

Premised upon personal observations, communications with teachers and pupils, principals viewed the strengths of the program in the following manner:

- building of self-confidence in the ability to read through success
- invaluable instruction teacher receives from the master teacher in diagnostic reading procedures, prescriptive teaching skills, developing lessons based upon pupil need and promoting an attitude of pride in achievement and the desire to read
- individualized instruction
- opportunity for parent participation
- structured schedule

Recommendations included:

- more follow-up from the liaison teacher
- continuance of the September to June program
- increased parent orientation to the program motivated by some unique technique to foster active participation in it
- closer supervision of progress
- more planned activity included in program format to develop comprehension skills
- closer planning to tie in skills developed to motivate practice and usage in other areas
- workshops for parents in the local building that they might acquire a better understanding of the program
- use of criterion referrals to see if the Talking Typewriter program helps to meet any specific objective

The reactions of parents sought through questionnaire revealed an overall unanimous approval of the program. Parents expressed their appreciation of the homework booklet and stated that they checked it over with their child. Their interest was further reflected in the ways in which they assisted their child at home.

Summaries of parent opinionnaires from four schools are included in Appendix VIII. Copies of principal and teacher opinionnaires are in Appendix IX and X.

A fifth question for which an answer was sought was:

> How were prior Talking Typewriter participants performing in their current classes based upon results from city-wide testing?

A sample of 43 sixth grade pupils remaining in their home schools was drawn from four 1971-72 Talking Typewriter classes which had completed the 180 day design. It must be recognized that not all pupils who initially composed the six week class remained in their home schools. It was determined that at the time of the administration of the sixth grade Comprehensive Test of Basic Skills Test in February, 1972, the average stanine status of these pupils was stanine two in comprehension which was three stanines below the test norm. The standing in vocabulary was stanine 4. It may be interpreted that although pupils in the sample reflected vocabulary power within the average stanine band, (4-6), a visible weakness in comprehension was present. It can be concluded that without additional support, these pupils will find it difficult to continue progress toward reading independence which had begun in the Talking Typewriter.

V. CONCLUSIONS AND RECOMMENDATIONS

The Talking Typewriter Program of the Cleveland Public Schools has demonstrated that through utilization of a different approach to reading instruction the needs of the seriously disabled reader can be met. Evaluation findings suggest:

- Statistically significant differences between pre and post-test performances in reading were observed for seven randomly selected classes which had participated
- two out of four classes having completed the program reflected minor reading gains at the end of the 150 day follow-up period. It was further determined that increased maturity widened the divergence between attained mean grade placement and grade-level test norms.
- the transition period in which the class moved from the intensively-paced program at the installation site to the classroom follow-up program may have presented some adjustment problems for the schools in the Phase II sample.

The project might wish to explore the following recommendations drawn from the 1972-1973 evaluation of program efforts:

- continue selection of participants according to program criteria to insure that services are extended to those pupils whose reading needs are definitive
- provide support to the classroom teacher in the school to assure that the change in program pace does not affect pupil progress during the transition period
- continue in-service to classroom teachers that they may continue to grow in teaching techniques related to pupil needs
- intensify parent-involvement efforts at the site and in participating schools

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APPENDIX

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APPENDIX I

Pupil Enrollment*
Talking Typewriter
Phase I

	School	Date of Enrollment	Enrollment
1.	Bolton	September, 1972	30
2.	Longwood	September, 1972	33
3.	Hicks	October, 1972	31
4.	Tremont	October, 1972	27
5.	John W. Raper	December, 1972	28
6.	Saint Francis	December, 1972	34
7.	Mary Bethune	January, 1973	26
8.	Marion	January, 1973	28
9.	John Burroughs	March, 1973	19
10.	Washington Irving	March, 1973	30
11.	Oliver Wendell Holmes	May, 1973	25
12.	Charles W. Chestnutt	May, 1973	
		TOTAL	343

*At entry

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APPENDIX I (Cont'd)

Pupil Enrollment
Talking Typewriter
Phase II*

	School	Completion Date	Enrollment
1.	Bolton	September, 1972	28
2.	Longwood	September, 1972	32
3.	Hicks	October, 1972	34
4.	Tremont	October, 1972	27
5.	John W. Raper	December, 1972	38
6.	Mary Bethune	January, 1973	36
7.	Saint Agatha	January, 1973	30
8.	Dunham	March, 1973	12
9.	John D. Rockefeller	March, 1973	29
10.	Margaret Ireland	May, 1973	27
11.	Chesterfield	June, 1973	26
12.	Woodland	June, 1973	30
		TOTAL	349

*Includes pupils added to class who did not attend Talking Typewriter Phase I yet participated in follow-up program. Project mobility eight per cent.

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APPENDIX II

Median Age By School*
Phase I
1972-1973

School	Enrollment*	Age Range	Median Age
1	19	9-1 to 10-9	9-9
2	22	9-2 to 10-7	9-10
3	21	9-3 to 11-8	10-2
4	22	8-9 to 10-8	9-9
5	26	9-4 to 11-4	10-2
6	21	10-0 to 11-2	10-11
7	24	8-11 to 11-5	10-5
TOTAL	155	8-9 to 11-8	10-2

*Refers to sample population

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APPENDIX III

Observed Means Of Standard Scores
Metropolitan Reading Tests - Form H
Grade 5
1972-1973

School	N*	Vocabulary				Comprehension			
		Post	Stanine	Post-Post	Stanine	Post	Stanine	Post-Post	Stanine
1	17	69.55	6	68.94	6	70.94	6	65.47	6
2	12	53.83	3	57.58	5	54.08	4	54.67	4
3	13	65.15	5	63.38	5	63.07	5	66.31	6
4	16	68.18	6	66.43	6	65.28	6	63.87	6
TOTAL	58	64.17	5	64.08	6	63.26	5	62.58	5

N* - Includes only pupils who participated in program through Phase I and II

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APPENDIX IV

Average Grade Equivalent Scores and Stanines - Metropolitan Reading Tests - Form H:
Form D Posttest - Grade Four
Post-Posttest - Grade Five
1972-1973

School	Norm at Point of Test	Vocabulary				Comprehension			
		Post Grade 4	Stanine	Post-Post Grade 5	Stanine	Post Grade 4	Stanine	Post-Post Grade 5	Stanine
1	4.7-5.5	4.5	6	4.5	6	4.5	6	3.9	6
2	4.7-5.5	2.7	4	3.1	5	2.7	4	2.8	4
3	4.7-5.5	3.8	6	3.6	5	3.6	5	3.9	6
4	4.7-5.5	4.2	6	3.9	6	3.8	6	3.7	6
AVERAGE		3.7	5	3.7	6	3.6	5	3.6	6

APPENDIX V

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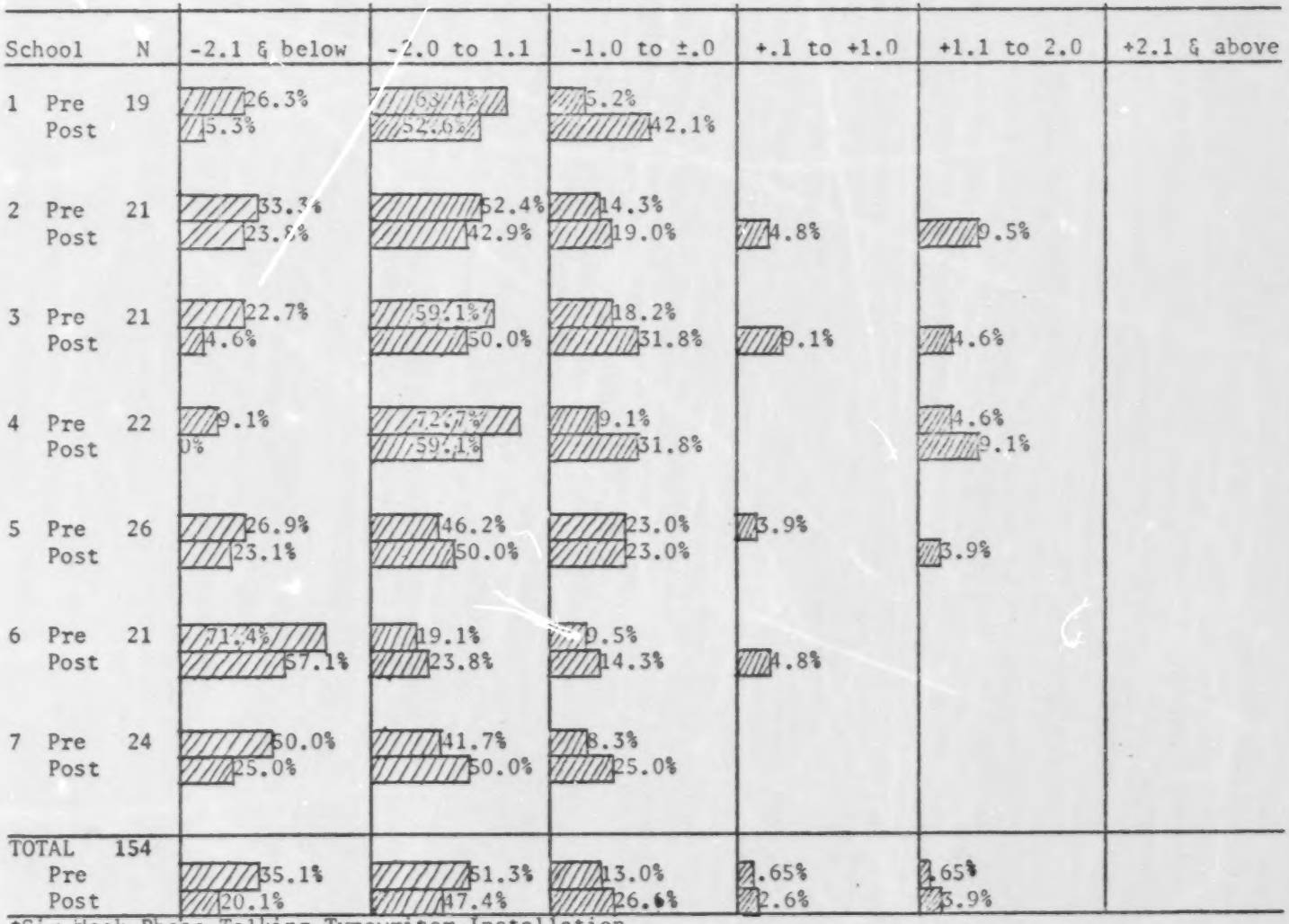
Talking Typewriter
Figure 1 - Differences Between Reading Expectancy and Performance Level 1972-1973
Phase I*



*Six Week Phase Talking Typewriter Installation

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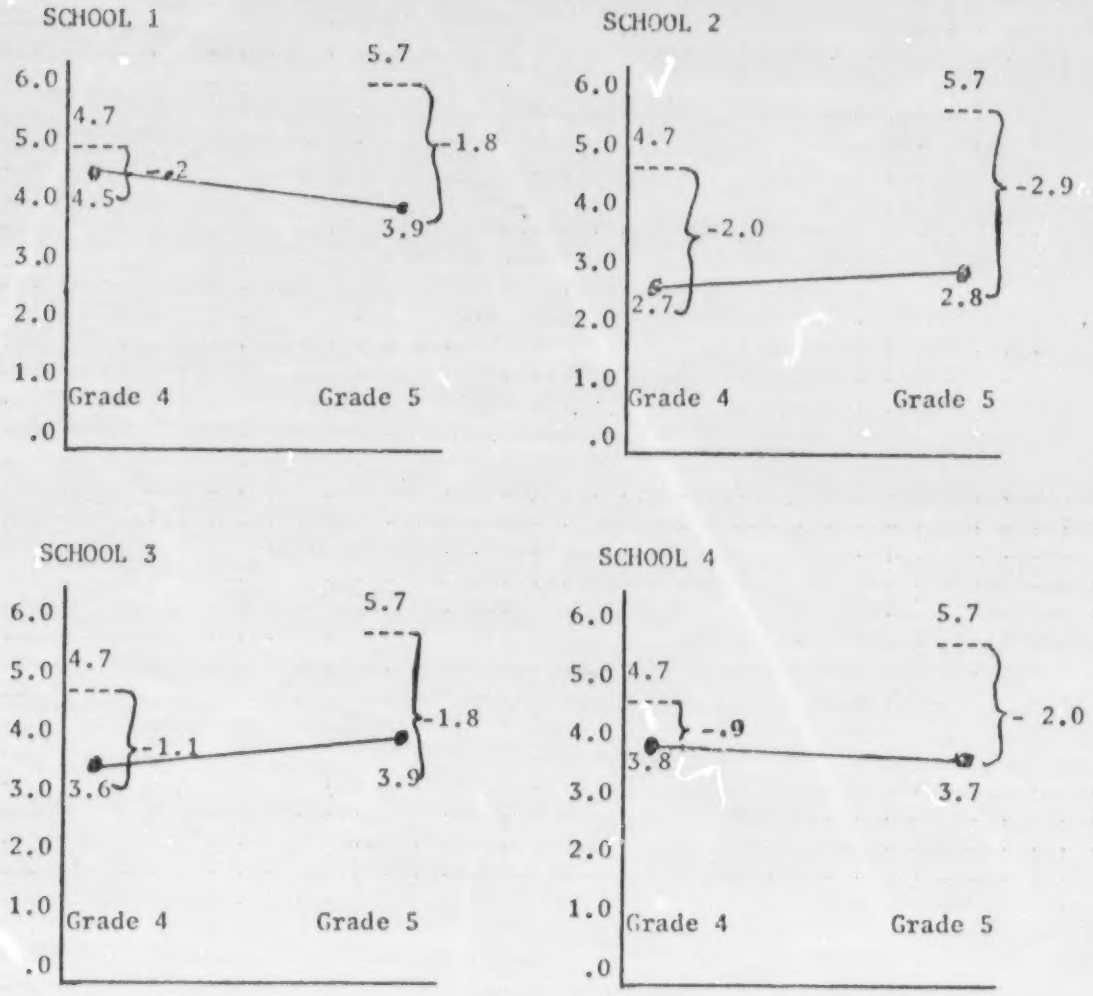
APPENDIX VI

Comparative Relationship Between Post Grade Equivalent Scores And Test Norms
Comprehension Subtests
Metropolitan Reading Tests
Forms G and H
1972-1973



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APPENDIX VII

Differences Between Reading Expectancies
and Performance
Talking Typewriter
Pre and Post Program
Phase I
1972-1973

No.	Dif. Pre	Dif. Post	Chg. Score	No.	Dif. Pre	Dif. Post	Chg. Score
1.	-1.8	-1.0	+ .8	21.	-2.0	-2.6	+ .6
2.	-1.8	-1.4	+ .4	22.	-1.6	-1.3	+ .3
3.	-1.8	-1.8	±0.0	23.	-1.8	-1.5	+ .3
4.	-1.1	- .2	+ .9	24.	-1.7	-1.6	+ .1
5.	-1.1	- .9	+ .2	25.	- .8	- .2	+1.0
6.	-2.3	-1.5	+ .8	26.	-2.6	-2.5	+ .1
7.	-1.1	-1.0	+ .1	27.	-1.9	-2.0	+ .1
8.	- .6	- .3	+ .3	28.	-3.8	-3.9	- .1
9.	-3.2	-2.0	+1.2	29.	-2.9	-2.2	+ .7
10.	-1.4	-1.1	+ .3	30.	- .5	+ .3	+ .8
11.	-1.9	-1.1	+ .8	31.	-1.0	+2.0	+3.0
12.	-2.0	-1.2	+ .8	32.	-2.6	-1.4	+1.2
13.	-1.4	-1.0	+ .4	33.	-2.4	-1.4	+1.0
14.	-1.9	-1.2	+ .7	34.	-2.3	-1.0	+1.3
15.	-2.6	-1.0	+1.6	35.	- .7	- .8	- .1
16.	-1.8	-1.2	+ .6	36.	-1.3	- .6	+ .7
17.	-1.8	-1.0	+ .8	37.	-1.4	-1.4	±0.0
18.	-2.5	-2.2	+ .3	38.	-1.8	-1.6	+ .2
19.	-1.6	-1.5	+ .1	39.	-1.1	- .3	+ .8
20.	-3.2	-2.6	+ .6	40.	-1.4	+1.2	+2.6

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APPENDIX VII

Differences Between Reading Expectancies
and Performance
Talking Typewriter
Pre and Post Program
Phase I
1972-1973

No.	Dif. Pre	Dif. Post	Chg. Score	No.	Dif. Pre	Dif. Post	Chg. Score
41.	-1.7	-1.6	+ .1	61.	-1.1	-1.5	- .4
42.	-2.6	-1.9	+ .7	62.	- .9	-1.1	- .2
43.	-1.2	+ .3	+1.5	63.	-1.9	-1.3	+ .6
44.	-1.7	-1.4	+ .3	64.	-2.3	-1.0	+1.3
45.	-1.5	-1.4	+ .3	65.	-2.3	-1.7	+ .6
46.	-1.6	-1.1	+ .5	66.	-1.7	-1.0	+ .7
47.	-1.1	-1.1	±0.0	67.	-1.2	- .6	+ .6
48.	-1.8	-1.0	+ .8	68.	-1.4	- .4	+1.0
49.	-3.2	-2.0	+1.2	69.	-1.3	+2.3	+3.6
50.	-2.3	-1.3	+1.0	70.	-1.8	- .2	+1.6
51.	-3.7	-2.5	+1.2	71.	-1.2	- .8	+ .4
52.	-1.4	- .8	+ .6	72.	-2.4	-1.8	+ .6
53.	- .9	-1.0	- .1	73.	- .6	- .2	+ .4
54.	-1.3	- .5	+ .8	74.	+ .9	- .3	-1.2
55.	- .5	- .6	- .1	75.	-2.1	-2.8	- .7
56.	-1.5	- .9	+ .6	76.	- .8	-1.2	- .4
57.	-1.0	+1.0	+2.0	77.	-2.1	-1.5	+ .6
58.	-1.7	-1.1	+ .6	78.	-2.3	-2.5	- .2
59.	-2.0	-1.5	+ .5	79.	- .3	-1.3	+1.7
60.	-1.8	+1.1	+2.9	80.	-2.1	-1.6	+ .5

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APPENDIX VII (Cont'd)

Differences Between Reading Expectancies
and Performance
Talking Typewriter
Pre and Post Program
Phase I
1972-1973

No.	Dif. Pre	Dif. Post	Chg. Score	No.	Dif. Pre	Dif. Post	Chg. Score
81.	-1.3	-1.5	- .2	101.	-2.7	-2.4	+ .3
82.	- .5	-1.1	- .6	102.	-2.3	-2.1	+ .2
83.	-1.9	-1.4	+ .5	103.	-2.2	+ .3	+2.5
84.	-1.5	+1.9	+3.4	104.	- .8	- .1	+ .7
85.	-1.2	-1.0	+ .2	105.	-1.8	-1.4	+ .4
86.	-1.7	-1.8	- .1	106.	-2.9	-2.9	±0.0
87.	-1.2	- .9	+ .3	107.	-2.9	-2.2	+ .7
88.	-1.5	-1.3	+ .2	108.	-3.1	-2.0	+1.1
89.	- .7	- .5	+ .2	109.	-3.0	-2.8	+ .2
90.	-1.2	-1.3	- .1	110.	-1.2	-1.0	+ .2
91.	-2.9	-2.7	+ .2	111.	- .9	-1.1	- .2
92.	-1.7	-2.0	- .3	112.	-2.5	-2.3	+ .2
93.	-1.7	-1.4	+ .3	113.	-3.2	-2.3	+ .9
94.	-1.6	-1.0	+ .6	114.	-2.7	-2.7	±0.0
95.	-2.4	-2.1	+ .3	115.	-1.9	-2.0	- .1
96.	-1.9	-2.1	- .2	116.	-2.2	-1.2	+1.0
97.	-1.0	-2.5	-1.5	117.	-3.2	-3.7	- .5
98.	-2.7	-2.6	+ .1	118.	-1.6	-1.2	+ .4
99.	-2.7	-2.7	±0.0	119.	-2.9	-2.3	+ .6
100.	-3.1	-2.5	+ .6	120.	-1.8	-1.3	+ .5

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APPENDIX VII (Cont'd)

Differences Between Reading Expectancies
and Performance
Talking Typewriter
Pre and Post Program
Phase I
1972-1973

No.	Dif. Pre	Dif. Post	Chg. Score	No.	Dif. Pre	Dif. Post	Chg. Score
121.	-2.7	-2.4	+ .3	141.	-2.1	-1.9	+ .2
122.	-3.3	-3.3	±0.0	142.	-1.5	-1.4	+ .1
123.	-4.0	-3.3	+ .7	143.	-1.8	-1.1	+ .7
124.	-2.0	-1.8	+ .2	144.	-1.1	-1.1	±0.0
125.	-2.3	-2.2	+ .1	145.	-2.0	-1.4	+ .6
126.	-1.8	-1.1	+ .7	146.	- .7	-1.3	- .6
127.	-2.6	- .9	+1.7	147.	-1.4	-1.4	±0.0
128.	- .8	- .8	±0.0	148.	- .5	+1.5	+2.0
129.	-2.4	-2.0	+ .4	149.	-1.5	-1.2	+ .3
130.	-1.5	-1.8	- .3	150.	-1.4	-1.3	+ .1
131.	-1.5	- .9	+ .6	151.	- .9	- .3	+ .6
132.	-2.1	-1.8	+ .3	152.	-1.2	-1.2	±0.0
133.	-1.6	-1.0	+ .6	153.	-2.0	-1.9	+ .1
134.	-2.4	-2.3	+ .1	154.	-1.8	-1.6	+ .2
135.	-2.0	-1.8	+ .2				
136.	- .3	-1.4	-1.1				
137.	-2.3	-1.7	+ .6				
138.	-1.5	-1.0	+ .5				
139.	-2.3	-1.6	+ .7				
140.	-2.6	-2.7	+ .1				

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APPENDIX VII (Cont'd)

Differences Between Reading Expectancies
and Performance
Talking Typewriter
Pre, Post, and Post-Post Program
1972-1973

No.	Dif. Pre	Dif. Post	Dif. Post-Post	Pre-Post Chg. Score	Post-Post Chg. Score
1.	-1.6	1.4	-2.4	.2-	3.8-
2.	-1.9	-2.0	-2.9	.1-	.9-
3.	-2.0	+ .5	-2.0	2.5+	2.5-
4.	-1.0	+1.4	- .8	2.4+	2.2-
5.	-1.8	-1.2	-1.9	.6+	.7-
6.	-1.8	-1.5	-1.7	.3+	.2-
7.	-1.5	-1.0	- .9	.5+	.1+
8.	-2.0	-2.0	-2.3	.0±	.3-
9.	-2.4	+ .2	-2.4	2.6+	2.6-
10.	+ .5	+ .4	-2.2	.1-	2.6-
11.	-1.2	+1.2	-1.2	2.4+	2.4-
12.	- .6	- .8	-2.6	.2-	1.8-
13.	-2.0	-1.3	-2.7	.7+	1.4-
14.	+ .4	+ .3	+1.1	.1-	.8+
15.	-2.0	-1.8	-2.8	.2+	1.0-
16.	-1.1	+1.9	-.2	3.0+	2.1-
17.	-2.2	-1.4	-1.8	.8+	.4-
18.	-3.5	-3.1	-4.4	.4+	1.3-
19.	-3.8	-3.7	-4.2	.1+	.5-
20.	-4.9	-4.7	-4.9	.2+	.2-

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APPENDIX VII (Cont'd)

Differences Between Reading Expectancies
and Performance
Talking Typewriter
Pre, Post, and Post-Post Program
1972-1973

No.	Dif. Pre	Dif. Post.	Dif. Post-Post	Pre-Post Chg. Score	Post-Post Chg. Score
21.	-3.6	-3.2	-3.6	.4+	.4-
22.	-3.9	-3.3	-3.9	.6+	.6-
23.	-3.9	-3.3	-3.9	.6+	.6-
24.	-4.0	-3.5	-4.7	.5+	1.2-
25.	-2.7	-2.5	-2.5	.2+	.0±
26.	-1.7	-1.6	-2.1	.1+	.5-
27.	-3.5	-3.2	-3.4	.3+	.2-
28.	-2.4	-1.9	-2.7	.5+	.8-
29.	-2.5	-1.7	-2.1	.8+	.4-
30.	-2.0	-2.1	-2.7	.1-	.6-
31.	-3.8	-3.2	-3.0	.6+	.2+
32.	-1.9	-2.2	- .4	.3-	2.6+
33.	-2.0	-2.0	-1.7	.0±	.3+
34.	-2.4	-2.2	-2.7	.2+	.5-
35.	-2.3	-1.5	-2.6	.8+	1.1-
36.	-3.6	-1.9	-2.7	1.7+	.8-
37.	-2.3	-2.7	-3.3	.4-	.6-
38.	-3.7	-3.5	-4.2	.2+	.7-
39.	-1.4	-1.9	-2.2	.5-	.3-
40.	-3.3	-2.8	-4.5	.5+	1.7-

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APPENDIX VII (Cont'd)

Differences Between Reading Expectancies
and Performance
Talking Typewriter
Pre, Post, and Post-Post Program
1972-1973

No.	Dif. Pre	Dif. Post	Dif. Post-Post	Pre-Post Chg. Score	Post-Post Chg. Score
41.	- .8	-1.9	-2.8	1.1-	.9-
42.	-5.6	-4.2	-5.3	1.4+	1.1-
43.	-1.7	-2.7	-3.6	1.0-	.9-
44.	- .7	-1.3	-2.7	.6-	1.4-
45.	-5.0	-4.2	-4.2	.8+	.0±
46.	-3.2	-1.8	-4.2	1.4+	2.4-
47.	-2.6	-2.1	-1.8	.5+	.3+
48.	-2.1	-1.4	-1.9	.7+	.5-
49.	-3.2	-2.3	-3.4	.9+	1.1-
50.	-2.5	-1.7	-2.5	.8+	.8-
51.	-4.7	-4.6	-5.3	.1+	.7-
52.	-3.1	-2.5	-3.4	.6+	.9-
53.	-1.7	-1.9	-2.6	.2-	.7-
54.	-1.5	-1.6	-1.4	.1-	.2+
55.	-1.9	-3.0	-3.6	1.1-	.6-
56.	-2.7	+ .3	-1.3	3.0+	1.6-
57.	- .5	-1.6	-3.0	1.1-	1.4-

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School_____ Date _____

CLEVELAND PUBLIC SCHOOLS
TALKING TYPEWRITER PROGRAM

OPINION SURVEY

This survey is intended to sample opinions of principals in whose buildings the Talking Typewriter Program is in operation.

Please check the box which tells whether your class:

[4] has recently completed the six week design

[5] has completed the 150 day follow-up program

How many times have classes from your school participated in the Talking Typewriter program?

___ time (s)

1. What do you consider the strengths of the Talking Typewriter program?

   1. Building of self confidence in ability to read through success
   2. Audio-visual media element holds pupils' attention
   3. Teacher aides to assist with details of program
   4. Invaluable instruction classroom teacher receives from master teacher.
   5. Individual instruction
   6. Opportunity for parent participation
   7. Structured schedule

2. Which of these strengths did you consider of most benefit to students in your school?

   1. Building of self confidence in ability to read through success
   2. The Sullivan Program
   3. Classroom Teacher Training

3. What elements should be improved?

   1. Use of S.R.A. kit
   2. More follow-up of a liaison teacher with classroom teacher at the home school
   3. Prefer Sept. - June program rather than Oct. - Sept. program
   4. Parents should be better informed about the program and motivated by some unique technique to participate in it.
   5. Closer supervision of progress in books. Department should structure more activity to develop comprehension skills.

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4. Please list any reactions from the follow-up teacher or students that you feel would strengthen our service?

   Pupils and teachers seemed to be interested and better motivated.

5. Did you observe more productive instruction to foster attention to individual pupil reading needs by the Talking Typewriter teacher?

   ☐ Yes ☐ No

6. What recommendations would you make for improvement of the program?

   1. Anyone of the original team to observe the classroom after the six week design is completed to observe the teacher's process and offer suggestions. (St. Francis School)

   2. Close check on teachers' follow-up and use of program opportunities to the fullest.

   3. Desire to have program again.

   4. Work-shop for parents in the local building so they could get a better understanding of the program.

   5. Use of criterion referrals to see if typewriter helps in reaching any specific objective

   6. Program started during summer less effective because of irregular attendance and late entry

Division of Research
and Development
1971-72

APPENDIX X

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CLEVELAND BOARD OF EDUCATION

Division of Research & Development

Date May , 1973

Talking Typewriter Classroom Teacher Opinionnaire

1. How many times have you participated in the Talking Typewriter Program as a teacher?

   1. 11 2. 2 3. ____ 4. ____

2. Briefly list 5 ways in which you feel this approach met the reading needs of pupils in your class.

   a. Pupils improved ability to attack words through sounding symbols and blending sounds as well as the phonetic approach.

   b. Developed a feeling of success and pleasure in reading in pupils who had become discouraged.

   c. Developed a better knowledge of locating answers in other subject areas as well as reading

   d. Eradicated feeling of inferiority because each child works at his own rate of speed

   e. Increased vocabulary

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3. Should you wish to make suggestions based upon your experiences in the use of this approach to teaching reading, please use this space.

   1. Program should begin in September.
   2. Every child should have an opportunity to participate in this program because of the excellent results it produces.
   3. Feeling that program is not for average or above average pupil.
   4. Children selected for the program should not be non-workers.
   5. Every teacher "new" to a program in a school should be assisted at the beginning with an experienced teacher.
   6. Aide should remain throughout the follow-up period - 150 days.

4. To what degree do you feel that your Talking Typewriter experience contributed to a change in the way in which you individualized reading instruction for pupils in your class?

Very Marked Change	Marked Change	Some Change	Little Change	No Change

Please return this form to Juanita Logan, room 610, Cleveland Board of Education in the enclosed envelope. Thank you.

Division of Research and Development N = 70

APPENDIX VIII

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TALKING TYPEWRITER PROGRAM

School Various Pupil's Name Various

Parent Opinionnaire

Dear Parent:

We are collecting information to assist us in improving the Talking Typewriter Program. Your answers to the following questions will be helpful.

1. How did you know that your child was participating in the Talking Typewriter Program?

Permission Slip	Child told me	Saw Books
Teacher told him	Letter from school	Visited and saw
Telephoned by teacher	Teacher notified me	for myself

2. Did you have an opportunity to observe your child at the Talking Typewriter?

Yes 31% No 69%

How did you feel about what you saw?

Saw the work and the improvement
Very much impressed
Very interesting
A different experience
A good experience
Liked it very much
Good about what I saw
It is helping him to want to learn
It was something I had never seen
It was great
The most amazing thing I ever saw
Very pleased

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3. From your point of view, what do you consider the strong points of this program?

It helps the children to read
Child gets a better understanding of words and word meaning
Helps child to think for himself
Teaches child to finish in a certain time

4. What suggestions do you have for improving this project?

I think it should be in the third grade also.
Get more typewriters and use it more extensively.
Give the children a longer time there.

5. How did you help your child in reading at home?

I tried to help her understand more.

6. Please check changes you noticed in your child while he was enrolled in the program.

- attitude toward school

61% much 17% some 22% none

- attitude toward reading

47% much 53% some 0% none

- interest in reading

54% much 46% some 0% none

- ability to understand what he is reading

60% much 40% some 0% none

Please return this questionnaire to: Your child's classroom teacher. Please seal your envelope before returning the questionnaire.